

[illegible]

5 Economical processes are disclosed for the production of fuels of reduced sulfur content from a feedstock, typically derived from natural petroleum, wherein the feedstock is comprised of limited amounts of sulfur-containing organic compounds as unwanted impurities. The processes involve an integrated, multiple stage system for converting these impurities to higher boiling products by alkylation and removing the
10 higher boiling products by fractional distillation. Advantageously, the processes include selective hydrogenation of the high-boiling fraction whereby the incorporation of hydrogen into hydrocarbon compounds, sulfur-containing organic compounds, and/or nitrogen-containing organic compounds assists by hydrogenation removal of sulfur and/or nitrogen. Products can be used directly as transportation fuels and/or blending
15 components to provide, for example, more suitable components for blending into fuels which are more friendly to the environment.